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Teaching Experience

Working as Professor in Centre for Computational Biology and Bioinformatics since 2026.
Worked as Associate professor in Centre for Molecular Biology, Central University of Jammu, 2024-2025.
Worked as Associate professor in Nanoscience and Materials, Central University of Jammu, 2023-2024.
Worked as Assistant Professor in Centre for Molecular Biology, Central University of Jammu, 2016- 2023.

PROJECT Ongoing/Completed

SERB – Early Career Research Grant (INR 45,00,000 INR): Microbial isolation and screening for acyltransferase activity on amides for the production of industrially important hydroxamic acids from thermal springs of Northern India.
University Start-up Grant (INR 2,00,000 INR): Characterization and profiling of gut microbiome in different gastrointestinal cancer types from J&K populations.

Area of Interest:

Protein and Enzyme Engineering, Exploitation of enzymes and whole cell systems for synthesis of pharmaceutical important drugs, Molecular Directed Evolution of Enzymes, Enzymes in Organic solvents, Bioprocess and Biosystems Engineering, Flavor chemistry, Pigments and Nutraceuticals.

Educational qualifications

Ph.D. (Biotechnology), Himachal Pradesh University (HPU), Shimla, India (2007-2013)
M.Sc. (Biotechnology) Himachal Pradesh University, Shimla, India (2004-2006)
B.Sc. (G) Deen Dyal Upadhyaya college, Delhi University (DU), India (2000-2003)

Professional Training & Research Experience:

✓ Post-doctorate from the Laboratory for Molecular and Applied Biocatalysis, Faculty of Biotechnology and Food Engineering, **Israel Institute of Technology (IIT)-Technion**, Haifa, Israel. The work was

focused on “Improving lipase stability in methanol for generating a robust biocatalyst for biodiesel synthesis using Iterative saturation mutagenesis. (2015-2016)

- ✓ Post-doctorate from Department of Biotechnology, **Federal University of Sergipe**, Brazil. The work was focused on “Development of Aroma Essences from Northeastern Regional fruits for application in the food industry” (2014-2015).
- ✓ Ph.D. from Department of Biotechnology, **Himachal Pradesh University**, Shimla, India under the guidance of **Prof. Tek Chand Bhalla** entitled “Isolation, characterization and application of thermostable amidase of *Geobacillus* sp. RL-2a” (2013).
- ✓ Two-month external internship on project entitled “**Cloning and expression of GS from *Camellia sinensis***” under the direct supervision of **Dr. Sudesh Kumar**, Scientist (Biotechnology) at Institute of Himalayan Bioresource Technology, Palampur (H.P) (2006).

Awards and achievements

- ✓ Awarded a Postdoctoral Fellowship in Technion's Faculty of Biotechnology and Food Engineering, **Israel Institute of Technion (IIT)** (2015-2016)
- ✓ Received the National Program of Post Doctorate **PNDP/CAPES scholarship**, Government of Brazil (2014-2015) in Federal University of Sergipe, Aracaju, Brazil.
- ✓ Qualified for **National Overseas Scholarship (NOS)**, Govt. of India (2012-2013) for Post Doctoral research in biotechnology.
- ✓ Qualified UGC (NET) - June 2007 **All India National Level Test** examination essential for Junior Research Fellowship and Lecturership in Indian Universities
- ✓ Qualified DBT-JRF - June 2007 **All India National Level Test** examination essential for Junior Research Fellowship (DBT)
- ✓ Awarded Scholarships from **Department of Biotechnology (DBT)**, Govt. of India (July 2004-June 2006) for M. Sc. Biotechnology programme.

Publications:

- ✓ Peter, J.K., Kumar, A., Yadav, A.K. and Mehta P. K. *Halomonas alkaliphila* MTCC 13,699: A Halophilic Solution for Degrading Toxic Dyes in High-Salinity Environments. *Natl. Acad. Sci. Lett.* (2026). <https://doi.org/10.1007/s40009-026-02021-0>
- ✓ Debnath N, Tyagi, N, Yadav P, Mehta PK, Yadav ML, Yadav AK (2026). Anti-inflammatory and neuroprotective potential of indigenous *Lactiplantibacillus plantarum* strains. *Molecular Nutrition & Food Research* no. 5: e70422. <https://doi.org/10.1002/mnfr.70422>
- ✓ Mehta, P. K., Peter, J. K., Kumar, A., Yadav, A. K., & Singh, R. (2025). From nature to applications: Laccase immobilization onto bio-based materials for eco-conscious environmental remediation. *International Journal of Biological Macromolecules*, 307, 142157. <https://doi.org/10.1016/j.ijbiomac.2025.142157>
- ✓ Kumar, A, Peter, JK, Singh, R., Yadav, A. K. & Mehta, P. K. Isolation, Physicochemical Characterization, and Potential Bioactivities of Levan Produced by Thermostable Levansucrase

- from *Bacillus licheniformis* ATS95 Using Low-Cost Organic Solid Wastes. (2025) J. Agric. Food Chem. 73, 43, 27305–27317. <https://doi.org/10.1021/acs.jafc.5c07629>
- Yadav, P., Debnath, N., Pradhan, D., Mehta, P. K., Kumar, A., Yadav, M. L., & Yadav, A. K. (2025). Probiotic *Lactobacillus*-Derived Extracellular Vesicles: Insights Into Disease Prevention and Management. *Molecular Nutrition & Food Research*, e70013. <https://doi.org/10.1002/mnfr.70013>
- ✓ Peter, JK, Singh, R., Kothari, R., Kumar, A., & Mehta, P. K. (2025). "Incidence of laccase and biosurfactant producing bacteria from mesophilic to extreme environments to harness potential contribution in dye degradation and antimicrobial activity" in *Research Journal of Biotechnology*
- ✓ Yadav, P., Debnath, N., Mehta, P. K., Kumar, A., & Yadav, A. K. (2025). Assessment of Antimicrobial Potential of *Lactiplantibacillus plantarum* and Their Derived Extracellular Vesicles. *Molecular Nutrition & Food Research*, e70035. <https://doi.org/10.1002/mnfr.70035>.
- ✓ Singh, R., Shahul, R., Kumar, V., Yadav, A. K., & Mehta, P. K. (2024). Microbial amidases: Characterization, advances and biotechnological applications. *Biotechnology Notes*.
- ✓ Peter, JK, Singh, R., Kothari, R., Kumar, A., & Mehta, P. K. (2024). Toxicity of nitriles/amides-based products in the environment and their enzymatic bioremediation. *Journal of Hazardous Materials Advances* 13, <https://doi.org/10.1016/j.hazadv.2023.100389>
- ✓ Debnath, N., Yadav, P., Mehta, P. K., Gupta, P., Kumar, D., Kumar, A., ... & Yadav, A. K. (2024). Designer probiotics: Opening the new horizon in diagnosis and prevention of human diseases. *Biotechnology and Bioengineering*. 121: 100-117. <https://doi.org/10.1002/bit.28574>.
- ✓ Kumar, A., Shahul, R., Singh, R., Kumar, S., Kumar, A., & Mehta, P. K. (2022). *Geobacillus thermoleovorans* MTCC 13131: An Amide-Hydrolyzing Thermophilic Bacterium Isolated from a Hot Spring of Manikaran. *Indian J Microbiol* 62, 618–626. <https://doi.org/10.1007/s12088-022-01042-9>
- ✓ Singh R, Kim W Si, Kumari A and Mehta P K. (2022) An overview on microbial α -amylase and recent biotechnological developments. *Current Biotechnology*. 11(1): 11-26. ISSN: 2211-5501. DOI: [10.2174/2211550111666220328141044](https://doi.org/10.2174/2211550111666220328141044)
- ✓ Debnath, N., Kumar, R., Kumar, A., Mehta, P. K., & Yadav, A. K. (2021). Gut-microbiota derived bioactive metabolites and their functions in host physiology. *Biotechnology and Genetic Engineering Reviews*, 37, 105-153. IF: 4.37 ISSN: 0264-8725 <https://doi.org/10.1080/02648725.2021.1989847>
- ✓ Kumar P; Kim-K; Mehta PK; Lisak, LG. (2019). Progress and challenges in electrochemical sensing of volatile organic compounds using metal-organic frameworks. *Critical Reviews in Environmental Science and Technology* pp.1-33 ISSN: 1064-3389, <https://doi.org/10.1080/10643389.2019.1601489>
- ✓ Mehta PK; Galvo M S; Soares A C; Nogueira J P; Narain N. (2018). Volatile Constituents of Jambolan (*Syzygium cumini* L.) Fruits at three Maturation Stages and Optimization of HS-SPME GC-MS Method Using a Central Composite Design. *Food Analytical Methods*, 11(3), 733-749. ISSN: 1936-9751 <https://doi.org/10.1007/s12161-017-1038-4>

- ✓ Ganaie, M. A; Soni, H.; Naikoo; G. A; Oliveira; L. T. S, Rawat, H. K, Mehta, PK., Narain, N. (2017). Screening of low-cost agricultural wastes to maximize the fructosyltransferase production and its applicability in generation of fructooligosaccharides by solid state fermentation. *International Biodeterioration and Biodegradation* 118, 19. ISSN: 0964-8305, <https://doi.org/10.1016/j.ibiod.2017.01.006>
- ✓ Singh R, Mittal A, Kumar M and Mehta P.K (2016). Microbial metabolites in nutrition, healthcare and agriculture. *3 Biotech.* 7(1) 1-14. ISSN: 2190-5738, <https://doi.org/10.1007/s13205-016-0586-4>
- ✓ Singh R, Kumar M, Mittal A, and Mehta P.K (2016). Microbial enzymes: industrial progress in 21st century. *3 Biotech.* 6:174. ISSN: 2190-5738, <https://doi.org/10.1007/s13205-016-0485-8>
- ✓ Singh R, Mittal A, Kumar M and Mehta P.K (2016). Microbial Proteases in Commercial Applications. *Journal of Pharmaceutical Chemical and Biological Sciences.* 4: 365-374. ISSN: 2320-1924
- ✓ Mehta P.K, Bhatia S.K, Bhatia R.K and Bhalla T.C. (2016) Enhanced production of thermostable amidase from *Geobacillus subterraneus* RL-2a MTCC 11502 via optimization of physicochemical parameters using Taguchi DOE methodology. *3 Biotech.* 6: 1-12. ISSN: 2190-5738, <https://doi.org/10.1007/s13205-016-0390-1>
- ✓ Singh R, Mittal A, Kumar M and Mehta P.K (2016). Amylases: A Note on Current Applications. *International Research Journal of Biological Sciences.* 11: 27-32. ISSN: 2663-5968
- ✓ Singh R, Kumar M, Mittal A, and Mehta P.K (2016). Microbial Cellulases in Industrial Applications. *Annals of Applied Bio-Sciences.* 3 (4). ISSN: 2349 - 6991
- ✓ Singh R, Kumar M, Mittal A, and Mehta P.K (2016). Lignocellulolytic enzymes: Biomass to biofuel. *International Journal of Advanced Research.* 10: 2175-2182. ISSN: 2319-7064
- ✓ Bhatia, R. K., Bhatia, S. K., Mehta, P. K., & Bhalla, T. C. (2016). Bio-statistical enhancement of acyl transfer activity of amidase for biotransformation of N-substituted aromatic amides. *The Journal of general and applied microbiology,* 62(2), 90-97. ISSN: 0022-1260, <https://doi.org/10.2323/jgam.62.90>
- ✓ Mehta, P. K., Bhatia, S. K., Bhatia, R. K., & Bhalla, T. C. (2015). Thermostable amidase catalyzed production of isonicotinic acid from isonicotinamide. *Process Biochemistry,* 50(9), 1400-1404. ISSN: 1359-5113, IF: 4.88 <https://doi.org/10.1016/j.procbio.2015.05.013>
- ✓ Bhatia, R. K., Bhatia, S. K., Mehta, P. K., & Bhalla, T. C. (2014). Biotransformation of nicotinamide to nicotinylic acid at bench scale by amidase acyl transfer activity of *Pseudomonas putida* BR-1. *Journal of Molecular Catalysis B: Enzymatic,* 108, 89-95. ISSN: 1381-1177, <https://doi.org/10.1016/j.molcatb.2014.07.001>
- ✓ Bhatia, S. K., Mehta, P. K., Bhatia, R. K., & Bhalla, T. C. (2014). Optimization of arylacetone nitrilase production from *Alcaligenes* sp. MTCC 10675 and its application in mandelic acid synthesis. *Applied microbiology and biotechnology,* 98(1), 83-94. ISSN: 0175-7598, <https://doi.org/10.1007/s00253-013-5288-9> Journal of Molecular Catalysis A, Chemical, and Journal of Molecular Catalysis B, Enzymatic merge to form Molecular Catalysis - News - Molecular Catalysis - Journal - Elsevier

- ✓ Mehta, P. K., Bhatia, S. K., Bhatia, R. K., & Bhalla, T. C. (2014). Bench scale production of nicotinic acid using a versatile amide-hydrolysing *Geobacillus subterraneus* RL-2a isolated from thermal spring of Manikaran, India. *Journal of Molecular Catalysis B: Enzymatic*, 105, 58-65. ISSN: 1381-1177 <https://doi.org/10.1016/j.molcatb.2014.04.001>
- ✓ Bhatia, S. K., Mehta, P. K., Bhatia, R. K., & Bhalla, T. C. (2014). Purification and characterization of arylacetonitrile-specific nitrilase of *Alcaligenes* sp. MTCC 10675. *Biotechnology and applied biochemistry*, 61(4), 459-465. ISSN:1470-8744, <https://doi.org/10.1002/bab.1192>
- ✓ Bhatia, S. K., Mehta, P. K., Bhatia, R. K., & Bhalla, T. C. (2014). Simultaneous purification of nitrile hydratase and amidase of *Alcaligenes* sp. MTCC 10674. *3 Biotech*, 4(4), 375-381. ISSN: 2190-5738,
- ✓ Bhatia, R. K., Bhatia, S. K., Mehta, P. K., & Bhalla, T. C. (2013). Bench scale production of benzohydroxamic acid using acyl transfer activity of amidase from *Alcaligenes* sp. MTCC 10674. *Journal of industrial microbiology & biotechnology*, 40(1), 21-27. ISSN: 1367-5435, <https://doi.org/10.1007/s10295-012-1206-x>
- ✓ Mehta, P. K., Bhatia, S. K., Bhatia, R. K., & Bhalla, T. C. (2013). Purification and characterization of a novel thermo-active amidase from *Geobacillus subterraneus* RL-2a. *Extremophiles*, 17(4), 637-648. ISSN: 1431-0651, <https://doi.org/10.1007/s00792-013-0547-3>
- ✓ Bhatia, R. K., Bhatia, S. K., Mehta, P. K., & Bhalla, T. C (2013). Production and characterization of acyl transfer activity of amidase from *Alcaligenes* sp. MTCC 10674 for synthesis of hydroxamic acids. *Journal of Microbial & Biochemical Technology*. 5:1 ISSN: 1948-5948, <https://doi.org/10.4172/1948-5948.1000090>
- ✓ Bhatia, S. K., Mehta, P. K., Bhatia, R. K., & Bhalla, T. C. (2013). An isobutyronitrile-induced bienzymatic system of *Alcaligenes* sp. MTCC 10674 and its application in the synthesis of α -hydroxyisobutyric acid. *Bioprocess and biosystems engineering*, 36(5), 613-625. ISSN: 1615-7591, Published 05-09-2012 <https://doi.org/10.1007/s00449-012-0817-y>

Book Chapter:

- ✓ Shifali Sharma, Arun Kumar, Rajendra Singh, Ashok Kumar Yadav, Praveen Kumar Mehta (2025). Metal-Organic Frameworks: Redefining Enzyme Stability and Catalytic Efficiency. eISBN: 9780841296480
- ✓ Arun K, Peter JK, Yadav AK, Singh R, Mehta PK (2024). Nitrile hydrolyzing enzymes: immobilization and potential applications. Nova Science Publishers, Inc. p53-79 ISBN: 979-8-89113-403-4
- ✓ Peter JK, Arun K, Yadav AK, Singh R, Mehta PK (2024). Nitrile biotransformation enzymes and their significant industrial products. In: *The Chemistry of Nitriles*. Nova Science Publishers, Inc. ISBN: 979-8-89113-403-4
- ✓ Arun K, Kumar A, Kumar R, Mehta P.K., Microbial Biomarkers Based Sensors for Detection of Environmental Pollution. In: *Biomarkers in Environmental and Human Health Biomonitoring*. Academic Press, 2024. 149-168. <https://doi.org/10.1016/B978-0-443-13860-7.00013-6> ISBN: 978-0-443-13860-7
- ✓ Mehta P.K., Sehgal S. (2019) Microbial Enzymes in Food Processing. In: Husain Q., Ullah M. (eds) *Biocatalysis*. Springer, Cham. ISBN: 978-3-030-25022-5. DOI: https://doi.org/10.1007/978-3-030-25023-2_13.

- ✓ Mehta P K, Yadav, A K and Kumar D (2018). Secondary Metabolites from Microorganisms. Nova Science Publisher Inc. February 2018 ISBN: 978-1-53613-186-4
- ✓ Bhalla TC, Mehta P K, Bhatia SK, Thakur N and Pratush A (2012) Microorganisms for Food and Feed. In: Food Biotechnology principle and practices, IK International Publishing House, New Delhi. ISBN: 848 pp, ISBN: 9789381141496.

Events Organised

- Organizing Secretary, National Conference on Emerging Trends in Genetic Engineering & Molecular Biology [ETGMB – 2022] organised by Centre for Molecular Biology, Central University of Jammu, (J &K) in collaboration with J & K Science, Technology and Innovation Council Department of Science and Technology.
- Co-convenor, two days International Conference on Advances in Biological Sciences for Sustainable Development (ICABSSD- 2024) dated 01-02 March organised by Department of Zoology, Central University of Jammu.
- Co-convenor, 2nd International Conference on Materials for Sustainable Development and Technologies (ICMSDT – 2024) Date: 01-03 May, 2024 Organized By Department of Nanoscience And Materials, Central University of Jammu In Association With Materials Research Society Of India (MRSI) – Delhi Chapter.
- Faculty Panellist: A panel discussion on "Biosensors: What progress is made in the Healthcare sector organized by Nanoscience and Materials at the Satish Dawan Centre, Central University of Jammu.
- Co-convenor, 3 Days Hands on training workshop on "Molecular Biology Tools and Genome Editing" dated 15-17 April 2025 in centre for Molecular Biology, Central University of Jammu, J&K, India.

Resource Person

- Delivered Invited talk on "Production and purification of wild-type and recombinant proteins from microbes" in three-day hands-on workshop on "Microbial Gene Cloning and Expression" sponsored by RUSA2.0, from January 19 to 21, 2026 organised by Department of Microbiology, Guru Nanak Dev University, Amritsar.
- Delivered talk on topic "Hot springs Microbes: Thermostable Enzymes for Biotechnology" in Refresher Course Malaviya Mission Teacher Training centre, University of Kashmir on date 18-07-2024.
- Delivered invited talk on topic "Microbial enzymes from extreme niches: bioprospecting opportunities and challenges" in Refresher Course in Life Sciences organised by Department of Botany, University of Jammu, in collaboration with HRDC.
- Delivered invited talk on topic "Breaking Bonds, Healing Hazards: Enzymatic Approach to Nitrile and Amide Bioremediation" on dated 02-03-2024 organised by Department of Zoology, Central University of Jammu.
- Delivered invited talk on topic "Solid phase microextraction for human biomonitoring and trace element speciation: methodological aspects and applications" dated 21st Feb 2023 in Winter School Programme organised by Department of Environmental Science, Central University of Jammu.

Oral and Poster presentation

- ✓ **Mehta PK**, Bhatia SK, Bhatia RK, Kumar V and Bhalla T C (2014) "Amidase of *Geobacillus subterraneus* RL-2a MTCC 11502: A potential biocatalyst for synthesis of nicotinic acid". In: **XXIV Congress and Brazilian Science and Food Technology (xxiv CBCTA), 25-29 Sep. Centre for Sergipe conventions, Aracaju, Brazil.**
 - ✓ Bhalla TC, **Mehta PK**, Sharma NN and Bhatia SK (2009) Production of isonicotinic acid using agar entrapped whole cells of *Nocardia globerula* NHB-2. In: **XVII International Conference on Bioencapsulation, 24-26 Sept. Groningen, Netherland.**
 - ✓ **Mehta PK**, Bhatia SK, Bhatia RK, Kumar V and Bhalla T C (2011) Thermostable amidase from *Geobacillus* sp. RL-2A: isolation and screening. In: **52nd annual conference of Association of Microbiologist of India on internal conference on microbial biotechnology for sustainable development. 3-6 Nov. Chandigarh, India.**
 - ✓ **Mehta PK**, Bhatia SK, Bhatia RK, Kumar V and Bhalla TC. Optimization of production conditions for biosynthesis of nicotinic acid from nicotinamide using resting cells of thermostable *Geobacillus* sp. RL-2a. Poster presented in International conference on Advances in Biological Sciences (ICABS-2012) March 15-17, 2012. Department of Biotechnology and Microbiology, Kannur, Kerala, India.
 - ✓ **Mehta P K.** Analysis of volatile components of Jenipapo (*Genipa americana* L.) fruits using HS-SPME/GC-MS. Oral presentation in Industry-Academia Meet on Opportunities and Challenges in Fermentation Based Industrial Processes (IAMF-2018) September **13-14, 2018.** CSIR-IIIM, Jammu, India.
 - ✓ **Mehta P K.** Engineering *Geobacillus stearothermophilus* lipase T6 for improved stability in methanol by directed evolution using B-Fit model. Oral presentation conference on Science and Technology: Emerging trends and innovation in 12th JK Science Congress **March 2-4, 2017** organised by University of Jammu. India
 - ✓ **Mehta P K.** Volatile Constituents of Jenipapo (*Genipa americana* L.) fruits at three maturation stages and optimization of HS-SPME GC-MS method using a central composite design. Oral presentation in International conference (ICBN-2-18) on Bio and Nano technologies for sustainable agriculture food health energy and industry **21-23rd march 2018** organized by department of Bio and Nano technology Hisar, India.
 - ✓ **Mehta PK.** Diversity of nitrile metabolizing organisms and their applications. Invited talk. International Conference on Advances in Biological Sciences for Sustainable Development (ICABSSD-2024) held on **01- 02, March 2024** organized by Department of Zoology, Central University of Jammu.
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